

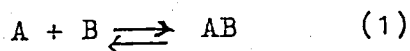
S/885/62/000/000/008/035  
D234/D308

AUTHOR: Samuylov, Ye. V.

TITLE: Separation of chemically reacting gases subject to a temperature gradient

SOURCE: Akademiya nauk SSSR. Energeticheskiy institut. Fizicheskaya gazodinamika, teploobmen i termodinamika gazov vysokikh temperatur. Moscow, Izd-vo AN SSSR, 1962, 99-102

TEXT: The reacting gas mixture is situated between two walls whose temperatures are  $T_0$  and  $T_1$ , the first being the lower. The reaction



is possible. The coefficient of diffusion of A into AB is assumed to be small compared with that of diffusion of B into AB. The velocity of the reaction is assumed to be such that there is chemical equilibrium at every point between the walls. Then  $x_B = C_1$ .

Card 1/2

Separation of chemically ...

S/885/62/000/000/008/035  
D234/D308

Denoting  $y = K_p/p$  the author derives an equation for  $C_1$ . Assuming  $T_1 - T_0$  to be small compared with  $T_0$  and  $T_1$ , the separation of components at a distance  $z$  from the wall having the temperature  $T_0$  is

$$x_A - x_B = \frac{(C_1^0)^2}{y_0 + C_1^0} \Delta_1 y_1 \left( \frac{\Delta z}{\Delta z_1} - \frac{1}{2} \right)$$

where  $C_1^0 = -y_0 + \sqrt{(y_0^2 + y_0)}$ ,  $\Delta_1 y_1$  is the term in the expansion  $y_1 = y_0(1 + \Delta_1 y_1 + \dots)$ ,  $y_1$  and  $y_0$  are the values of  $y$  at  $T_1$  and  $T_0$ .

Card 2/2

S/885/62/000/000/009/035  
D234/D308

AUTHORS: Rozhdestvenskiy, I. B. and Samuylov, Ye. V.

TITLE: Thermodynamical functions of  $N_2$ ,  $O_2$ ,  $N$ ,  $O$ ,  $N_2^+$ ,  $O_2^+$ ,  $N^+$ ,  $O^+$  and equilibrium constants of dissociation and ionization of nitrogen and oxygen (for 300 - 6000°K)

SOURCE: Akademiya nauk SSSR. Energeticheskiy institut. Fizicheskaya gazodinamika, teploobmen i termodinamika gazov vysokikh temperatur. Moscow, Izd-vo AN SSSR, 1962, 103-110

TEXT: The authors give tabulated values of  $S$  (for  $p = 1$  atm only),  $H$  and  $C_p$  as well as equilibrium constants for the reactions of dissociation of  $N_2$  and  $O_2$  and of single positive ionization of  $N_2$ ,  $O_2$ ,  $N$  and  $O$ . All values were calculated by methods of statistical physics. There are 2 tables.

Card 1/1

PREDVODITELEV, A.S.; STUPOCHENKO, Ye.V.; ROZHDESTVENSKIY, I.B.;  
SAMUYLOV, Ye.V.; PLESHANOV, A.S.; ORLOVA, I.A., red.;  
KORKINA, A.I., tekhn. red.

[Tables of the gas dynamic and thermodynamic values of an  
air flow behind a direct shock wave for velocities of the  
incident wave up to 4500 m/sec.] Tablitsy gazodinamiches-  
skikh i termodinamicheskikh velichin potoka vozdukha za  
priamym skachkom uplotnenia; dlia skorostei nabegaiushchego  
potoka do 4500 m/sec. Moskva, Vychislitel'nyi tsentr  
AN SSSR, 1962. 131 p. (MIRA 16:4)

1. Chlen-korrespondent Akademii nauk SSSR (for Predvoditlev).  
(Air flow)

PREDVODITELEV, A.S., prof.; STUPOCHENKO, Ye.V.; PLESHANOV, A.S.;  
SAMUYLOV, Ye.V.; ROZHDESTVENSKIY, I.B.; ORLOVA, I.A., red.;  
POPOVA, N.S., tekhn. red.

[Tables of the thermodynamic functions of air for temperatures  
from 200° to 6000°K and pressures from 0.00001 to 100 atm.] Tab-  
litsy termodinamicheskikh funktsii vozdukha; dlia temperatur ot  
200° do 6000°K i davlenii ot 0,00001 do 100 atmosfer. Moskva,  
Akad. nauk SSSR. Vychislitel'nyi tsentr, 1962. 267 p.

(MIRA 15:12)

(Air--Thermodynamic properties)  
(Physics--Tables, etc.)

SAMUYLOV, Ye.V.; OLEVINSKIY, K.K.; PREDVODITELEV, A.S., prof.,  
otv. red.; ORLOVA, I.A., red.; KORKINA, A.I., tekhn.  
red.

[Tables of sums for calculating the thermodynamic  
properties of gases] Tablitsy summ dlia rascheta termo-  
dinamicheskikh svoistv gazov. Moskva, Vychislitel'nyi  
tsentr AN SSSR, 1963. 144 p. (MIRA 17:3)

1. Chlen-korrespondent AN SSSR (for Predvoditelev).

ACCESSION NR: AP4004142

S/0294/63/001/002/0212/0217

AUTHOR: Samuylov, Ye. V.

TITLE: The evaluation of thermodynamic properties and composition of gas mixtures at high temperatures

SOURCE: Teplofizika vy\*sokikh temperatur, v. 1, no. 2, 1963, 212-217

TOPIC TAGS: plasma, plasma composition, high temperature, gas thermodynamic property, internal energy, gas mixture, ion, plasma property, plasma thermodynamic property

ABSTRACT: A method is presented for estimating the thermodynamic properties and composition of a plasma consisting of an arbitrary number of different species of initial atoms, when a large number of electrons becomes detached from the atoms (that is, when the atoms are deeply ionized), without account of the influence of the Coulomb fields of the ions and the electrons, and without account of the influence of radiation on the properties of the ions. The thermodynamic properties of the gases at high temperatures are

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ACCESSION NR: AP4004142

derived from an expression for the internal energy written down under the same assumptions as used to calculate the composition of the plasma. The plasma composition is determined by reducing the system of nonlinear algebraic equations for many species of atoms to a problem in which the composition of a plasma consisting of one species of atoms is calculated. Orig. art. has: 43 formulas.

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo  
(Power Engineering Institute)

SUBMITTED: 06Jun63

DATE ACQ: 26Dec63

ENCL: 00

SUB CODE: AS, PR

NO REF SOV: 002

OTHER: 005

Card 2/2



L 15202-65 EWT(1)/EWG(k)/EWT(m)/EPA(sp)-2/EPA(w)-2/EEC(t)/T/EEC(b)-2/EWA(m)-2  
 Pz-6/Po-4/Pab-10/Pi-4 IJP(c)/ASD(a)-5/BSD/SSD(b)/AEDC(a)/AFWL/AEDC(b)/SSD(a)/  
 SSD/ASD(f)-2/ASM(p)-2/ASD(p)-3/AFETR/ESD(gs)/ESD(t) JD/JW/MLK/AT  
 ACCESSION NR: AT4048000 S/0000/64/000/000/0003/0009

AUTHOR: Samuylov, Ye. V.

TITLE: Estimating the thermodynamic properties of gases at high temperatures

SOURCE: AN SSSR. Energeticheskiy institut. Fizicheskaya gazodinamika i svoystva gazov pri vysokih temperaturakh (Physical gas dynamics and properties of gases at high temperatures). Moscow, Izd-vo Nauka, 1964, 3-9

TOPIC TAGS: plasma, ionization, thermodynamic property

ABSTRACT: The paper presents a method for estimating the thermodynamic properties and the composition of a plasma when a large number of electrons are detached from the atoms (a case of deep ionization) without taking into account the effect of the Coulomb field of the ions and electrons on the properties of plasma. Under such conditions, the set of nonlinear algebraic equations determining the composition of plasma can be simplified and solved explicitly. The expressions for the thermodynamic functions are also simplified. The set of equations for the degree of ionization is solved for the case of deep ionization and weak constraints imposed on the equilibrium constants. The solution shows that for deep ionizations the generalized Saha formula, derived previously by the author (Ye. V. Stupochenko et al., Fizicheskaya gazodinamika. Izd-vo AN SSSR, 1959), can be used only

Card 1/2

L 15202-65

ACCESSION NR: AT4048000

when the pressure of the plasma is sufficiently low. Orig. art. has: 49 formulas. 0

ASSOCIATION: none

SUBMITTED: 06Mar64

ENCL: 00

SUB CODE: ME, TD

NO REF SOV: 002

OTHER: 005

ATD PRESS: 3143

Card 2/2

L 20822-65 EEC(b)-2/EWP(m)/EPR/EWG(v)/EPA(w)-2/EWG(k)/EWT(1)/EEC(t)/EPA(sp)-2/  
T/EWA(m)-2/EWA(d)/ Pd-1/Pe-5/Pi-4/Po-4/Ps-4/Pz-6/Pab-10/ IJP(c) AT/MLK

ACCESSION NR: AT4048001

S/0000/64/000/000/0010/0016

AUTHOR: Samuylov, Ye.V., Olevinskiy, K.K.

TITLE: Statistical sums for atomic cesium

SOURCE: AN SSSR, Energeticheskiy institut, Fizicheskaya gazodinamika i svoystva  
gazov pri vy\*sokikh temperaturakh (Physical gas dynamics and properties of gases at  
high temperatures). Moscow, Izd-vo Nauka, 1964, 10-16

TOPIC TAGS: atomic cesium, statistical sum, internal freedom, Boltzmann function,  
excited state, ionization threshold

ABSTRACT: The paper discusses the evaluation of statistical sums for the internal  
degrees of freedom of atomic cesium as defined by the usual weighted Boltzmann function.  
Only excited states are taken into account and the sum is broken down into sums for low  
excitations (equivalent electrons) and one for high excitations which form series of levels.  
The former are characterized by the total momentum and the energy level and are summed  
directly. The series-type states are characterized by a term for the atomic or ionic  
core and the orbital momentum of the electron, the levels being given in terms of the  
ionization threshold and the Rydberg constant. After some calculations, the serial part  
of the statistical sum  $Q$  is written down in terms of a dimensionless temperature and

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L 20822-65

ACCESSION NR: AT4048001

Formulas for  $Q'$  and  $Q''$  are also given. It is noted that the dependence on the core term is sufficiently weak so that it may be neglected. Coefficients entering into these formulas are tabulated as functions of dimensionless variables and this information is then used to calculate all sums for cesium. The factors determining contributions for various configurations of cesium are tabulated separately to 5 significant figures and it is found that the low-energy states give the main contributions to the sum. Orig. art. has: 5 tables and 22 equations.

ASSOCIATION: none

SUBMITTED: 06Mar64

ENCL: 00

SUB CODE: TD, NP

NO REF SOV: 000

OTHER: 002

Card 2/2

s/0294/64/002/004/0565/0572

ACCESSION NR: AP4044524

AUTHORS: Samuylov, Ye. V.; Tsitelauri, N. N.

TITLE: Collision integral for Morse potential

SOURCE: Teplofizika vy\*sokikh temperatur, v. 2, no. 4, 1964, 565-572

TOPIC TAGS: rarefied gas, collision integral, gas kinetics, numerical method, dissociation energy, diatomic molecule

ABSTRACT: A method for calculating the collision integral  $\Omega^{(1,0)}$ , used in rarefied gas kinetics, was considered with the Morse potential  $[U(r) = D_e \{e^{-2\beta(r-r_e)} - 2e^{-\beta(r-r_e)}\}]$ , where  $D_e$  - dissociation energy of diatomic molecule,  $\beta$  - nondimensional constant =  $\omega_e/2(B_e D_e)^{1/2}$ ,  $\omega_e$ ,  $B_e$  - vibrational and rotational constants,  $\xi = (r-r_e)/r_e$  where  $r$  - interatomic distance. The collision integral is given in a nondimensional form, thus

$$\Omega^{(1,0)*} = \frac{\Omega^{(1,0)} \sqrt{2\pi\mu/kT}}{\frac{1}{2}(s+1)! \left[ 1 - \frac{1}{2} \frac{1+(-1)^l}{1+l} \right] \pi r_e^s}$$

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ACCESSION NR: AP4044524

where

$$\Omega^{(l,s)}(T^*, \beta) = 2 [(s+1)!]^{-1} \int_0^\infty e^{-r^*} r^{2s+1} Q^{(l,s)} dr;$$

$$Q^{(l,s)}(K, \beta) = 2 \left[ 1 - \frac{1}{2} \frac{1 + (-1)^l}{1+l} \right]^{-1} \int_0^\infty (1 - \cos^l \chi) b^* db^*;$$

$$\chi(K, b^*, \beta) = \pi - 2b^* \int_{r_0}^\infty \frac{dr^*}{r^2} \left\{ 1 - \left( \frac{b^*}{r^*} \right)^2 - \frac{\Phi}{K} \right\}^{-\frac{1}{2}}.$$

The numerical calculation of the above equation was divided into seven domains in K and b\*

- 1)  $0 \leq K \leq K_{np}, 0 \leq b^* \leq b_2^*;$
- 2)  $0 \leq K \leq K_{np}, b_2^* \leq b^* \leq b_m^*;$
- 3)  $0 \leq K \leq K_{np}, b_m^* \leq b^* \leq b_1^*;$
- 4)  $0 \leq K \leq K_{np}, b_1^* \leq b^* \leq \infty;$
- 5)  $K_{np} \leq K \leq K_\sigma, 0 \leq b^* \leq \infty;$
- 6)  $K_\sigma \leq K \leq \infty, 0 \leq b^* \leq b_\sigma^*;$
- 7)  $K_\sigma \leq K \leq \infty, b_\sigma^* \leq b^* \leq \infty;$

and carried out using Gauss's method.

The following temperature scales were used

|                                                   |                                   |
|---------------------------------------------------|-----------------------------------|
| $0,1 \cdot 10^m \leq T^* \leq 0,2 \cdot 10^m$     | $\Delta T^* = 0,1 \cdot 10^{m-1}$ |
| $0,2 \cdot 10^m \leq T^* \leq 0,5 \cdot 10^m$     | $\Delta T^* = 0,2 \cdot 10^{m-1}$ |
| $0,5 \cdot 10^m \leq T^* \leq 0,1 \cdot 10^{m+1}$ | $\Delta T^* = 0,5 \cdot 10^m$     |
| $1 \leq T^* \leq 20$                              | $\Delta T^* = 0,1$                |

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ACCESSION NR: AP4044524

where  $m = -1; 0$ . The results for  $\Omega^{(1,s)}$ ,  $\ell = 1, 2, 3$ ,  $s = 1, 2, 3$  were tabulated.  
Orig. art. has: 12 formulas and 1 table.

ASSOCIATION: Moskovskiy energeticheskiy institut im. G. M. Krzhizhanovskogo  
(Moscow Institute of Power Engineering)

SUBMITTED: 06Dec63

ENCL: 00

SUB CODE: ME, MA

NO REF SOV: 002

OTHER: 003

Card 3/3

STUPOCHENKO, Yevgeniy Vladimirovich; LOSEV, Staliy Andreyevich;  
OSIPOV, Aleksey Iosifovich; SAMUYLOV, Ye. V., red.

[Relaxation processes in shock waves] Relaksatsionnye  
protssessy v udarnykh volnakh. Moskva, Nauka, 1965. 484 p.  
(MIRA 19:1)



L 62178-65 - EWT(1)/EPF(c)/EPA(w)-2/T/EWA(m)-2 Pr-4 IJP(c)  
 ACCESSION NR: AP5010460 UR/0294/65/003/002/0216/0222 28  
 533.924.15 25  
 B

AUTHOR: Samuylov, Ye. V.  
 TITLE: Equilibrium constant of particle ionization 21  
 SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 2, 1965  
 216-222

TOPIC TAGS: particle ionization, thermal ionization, photoionization  
 equilibrium constant, thermodynamic equilibrium

ABSTRACT: The author obtains more general expressions than derived in the past for the equilibrium constant of ionization of conducting particles present in the form of impurities in a partially ionized gas. The equilibrium constants are obtained for thermal ionization and for the photoionization of particles of arbitrary radius, with account taken of the screening produced by the electron-ion cloud surrounding the particles, and of the influence of the properties of the particle surface in the case of complete and incomplete thermo-

Card 1/2

L 62178-65

ACCESSION NR: AP5010460

3

dynamic equilibrium. The limits of applicability of the results are indicated. 'I thank S. A. Goldenberg and V. N. Iyevlev for a useful discussion of the problem.' Original article has: 37 formulas

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo  
(Power Institute)

SUBMITTED: 25Feb64

ENCL: 00

SUB CODE: NP, GP

NR REF SOV: 003

OTHER: 003

*sub*  
Card 2/2

SAMULYLOV, Ye.V.; VOSKRESENSKAYA, N.V.

Attraction type interaction potentials between K - K, Cs -  
Cs, C - O atoms forming molecules in the ground state. Teplofiz.  
vys. temp. 3 no.3:376-380 My-Je '65. (MIRA 18:8)

1. Energeticheskiy institut imeni G.M. Krzhizhanovskogo AN SSSR.

11903-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD  
ACC NR: AP6001908 UR/0294/65/003/006/0851/0859 37

AUTHOR: Samuylov, Ya.V.; Voskresenskaya, N.V.

ORG: Institute of Energetics im. G.M. Krzhizhanovskiy (Energeticheskiy institut)

TITLE: Reaction cross section of carbon and oxygen atoms 27 27

SOURCE: Teplofizika vysokikh temperatur, v.3, no.6, 1965, 851-859

TOPIC TAGS: particle cross section, carbon, oxygen

ABSTRACT: The article presents the results of the calculation of 18 types of reaction potentials for carbon and oxygen atoms, converging to the fundamental dissociation limit. Based on data on the potentials, calculations were made by kinetic theory of the effective reaction cross sections of carbon and oxygen atoms for  $s$  from 1 to 3,  $\ell$  less than or equal to  $s$ , and for temperatures from 1000 to 10,000°K. Atoms of carbon and oxygen can interact at various potentials corresponding to different types of energy levels of the carbon monoxide molecule. The latter can be determined according to the rules for combination of the orbital and spin moments of the atoms, as well as by comparison of the electronic configurations of the molecules. The article presents calculations of 18 different types of interaction in tabular form. It is concluded that

UDC: 539.186.3

Card 1/2

L 11903-66

ACC NR: AP6001908

the effective reaction cross sections of oxygen, carbon, and nitrogen atoms reacting with an oxygen atom increase with a decrease in the atomic number of the element since, with a decrease in the atomic number, the mean radius of the electron shell increases. Orig. art. has: 10 formulas, 2 figures, and 5 tables.

SUB CODE: 20/ SUBM DATE: 06Feb65/ ORIG REF: 005/ OTH REF: 023

CC  
Card 2/2

L 45434-66 ENT(1)/ENT(m)/EWP(j)/T DS/WW/JW/GD/RM

ACC NR: AT6022640

SOURCE CODE: UR/0000/66/000/000/0003/0013

AUTHOR: Rozhdestvenskiy, I. B.; Tsitelauri, N. N.; Voskresenskaya, N. V.; Samuylov, Ye. V.

ORG: none

TITLE: Morse potential parameters for C-C, C-O, C-N interactions

SOURCE: AN SSSR. Energeticheskiy institut. Issledovaniya po fizicheskoy gazodinamike (Studies of physical gas dynamics). Moscow, Izd-vo Nauka, 1966, 3-13

TOPIC TAGS: atomic structure, molecular theory, molecular interaction, potential energy, *high temperature research*

ABSTRACT: The interactions of atoms with an unsaturated electron shell at high temperatures are well described with the aid of the Morse potential function. Previous works (1961-1962) calculated the second virial coefficient, the collision integrals, effective sections, and collision angles for this potential. In 1961 Morse potential parameters were determined for certain non-polar molecules, as well as for N-N, O-O, and N-O interactions by means of potential curves with a minimum. The present work estimates the values for the Morse potential parameters for the interactions of atoms in biatomic molecules, such as C<sub>2</sub>, CO, CN. Low electron state potential energy curves previously found for C<sub>2</sub> (in 1962) and CO (in 1960) were used to determine the parameters in the cases of C<sub>2</sub> and CO. Here the potential curves for certain of the inter-

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L 45434-66

ACC NR: AT6022640

actions of C and N atoms of the CN molecule are determined. The parameters of the Morse potential are (1) energy of disassociation, calculated from the minimum on the potential curve, (2) the balance distance between atoms, and (3) Beta, which is the ratio of the oscillation and rotation constants for the beatomic molecule. Org. art. has: 8 formulas, 9 tables, and 1 figure.

SUB CODE: 20/ SUBM DATE: 31 feb 66 / ORIG REF: 004 / OTH REF: 009

Card 2/2

L 45438-66 ENT(1) GD

ACC NR: AT6022641

SOURCE CODE: UR/0000/66/000/000/0014/0024

AUTHOR: Samuylov, Ye. V.; Tsitelauri, N. N.

88

B+1

ORG: none

TITLE: Collision integrals, effective sections, and angular deviations for the Morse potential

SOURCE: AN SSSR. Energeticheskiy institut. Issledovaniya po fizicheskoy gasodinamike (Studies of physical gas dynamics). Moscow, Izd-vo Nauka, 1966, 14-24TOPIC TAGS: atomic structure, molecular theory, gas analysis, *high temperature research, transport theory, molecular interaction*

ABSTRACT: Transport coefficients of gases require information on effective sections for different interactions between molecules, atoms, and gas ions. These sections are found experimentally for some gases at 1000° to 1500°K. The same condition, but at still higher temperatures, was not examined. Sections of atomic interactions are of interest because molecules disassociate into atoms. Atoms with an unsaturated electron shell can interact in accordance with different types of potential curves, depending on the mutual orientation of the orbital and spinning moments of the outside shell electrons. Average effective sections can be calculated for each intersecting curve. Potential curves of the repulsive type are often well described by a simple exponential function. Potential curves of the attractive type are well described by the Morse potential. The calculations for the average effective sections for this

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L-45438-66

ACC NR: AT6022641

potential are of interest. The average effective sections which enter into the expressions for viscosity coefficient, thermal conductivity, and diffusion of disassociating gases are expressed by collision integrals. The article demonstrates how to calculate collision integrals for the Morse potential for  $\text{Beta} = 1.5$ , and includes the results of calculations for angular deviations and effective sections. Basic information on the Morse potential is included and magnitudes are tabulated. Since this function cannot be described by the interaction of atoms in the dimensionless state, the article includes dimensionless values for collision integrals, effective sections, and angular deviations in radians, with tabulations for the corrected Morse potential. Orig. art. has: 20 formulas, 14 figures and 1 table.

SUB CODE: 20, 12 / SUBM DATE: 31 Feb 66 / ORIG REF: 002 / OTH REF: 003

Card 2/2

L 43156-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JG/GD  
ACC NR: AT6022642 SOURCE CODE: UR/0000/66/000/000/0025/0029

AUTHOR: Samuylov, Ye. V.; Voskresenskaya, N. V.

ORG: none

TITLE: Attractive-type interaction potentials between Li-Li atoms in ground states

SOURCE: AN SSSR. Energeticheskiy institut. Issledovaniya po fizicheskoy gazodina-  
mike (Studies of physical gas dynamics). Moscow, Izd-vo Nauka, 1966, 25-29

TOPIC TAGS: lithium, ground state, potential energy, quantum number

ABSTRACT: A method is proposed for calculating the curves of attractive-type inter-  
action potentials for the case where the rotational constant  $B_v$  is expressed in the  
form of a power series in  $(v + 1/2)$  (where  $v$  is the vibrational quantum number) includ-  
ing the second power of  $(v + 1/2)$ . Results of calculations of attractive-type poten-  
tials between Li-Li atoms in ground states are also given. For the Li-Li interaction,  
attractive curves with and without consideration of the second power of  $(v + 1/2)$  in  
the series for  $B_v$  were calculated.  $r_{\min}$  and  $r_{\max}$  were obtained for all values of the  
vibrational quantum number from  $v = 0$  to  $v = v_{\max}$  ( $v_{\max}$  being the maximum value of the  
vibrational quantum number at which the molecule is stable). Orig. art. has: 1 table  
and 17 formulas.

SUB CODE: 20/ SUBM DATE: 31Feb66/ ORIG REF: 001/ OTH REF: 006

Card 1/1 MLP

L 33664-66 EWT(r)/T IJP(c)  
 ACC NR: AP6014058 SOURCE CODE: UR/0294/66/004/002/0143/0147  
 AUTHOR: Semuylov, Ye. V. 44  
 ORG: Power Institute im. G. M. Krzhizhanovskiy (Energeticheskiy institut) B  
 TITLE: The adhesion cross section of electrons to spherical particles and the thermal ionization of particles  
 SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 2, 1966, 143-147  
 TOPIC TAGS: particle cross section, electron, thermal ionization  
 ABSTRACT: The energy  $\Phi(r)$  of an electron located at a distance  $r$  from the center of a particle of radius  $R$  with a charge  $Z^*e$  ( $Z^*$  is a positive or negative whole number,  $e$  is the charge on the electron) can in most cases be approximated by the expression:  

$$\Phi(r) = -\frac{Z^* e^2 e^{-\kappa(r-R)}}{r(1+R\kappa)} - \frac{e^2 R^3 e^{-2\kappa(r-R)}}{2r^2(r^2-R^2)}, \quad (1)$$
  
 where  $\kappa$  is the Debye screening constant  

$$\kappa^2 = 4\pi e^2 \left( \frac{n_e}{kT_e} + \sum_{Z^+} \frac{N_{Z^+} Z_0^{*2}}{kT_i} + \sum_{Z^-} \frac{n_{Z^-} Z^{*2}}{kT_p} \right). \quad (2)$$
  
 UDC: 533.92.537.537.58

Card 1/2

L 38221-66 EMT(1)

ACC NR: AP6009428

SOURCE CODE: UR/0020/66/166/006/1397/1400

AUTHOR: Samuylov, Ye. V.

ORG: State Scientific Research Power Engineering Institute im. G. M. Krzhizhanovskiy  
(Gosudarstvennyy nauchno-issledovatel'skiy energeticheskiy institut)

TITLE: Electrical conductivity of dust containing gases

SOURCE: AN SSSR. Doklady, v. 166, no. 6, 1966, 1397-1400

TOPIC TAGS: gas conduction, charged particle, electric conductivity

ABSTRACT: The article considers the <sup>2/</sup>conductivity of gas containing as an impurity spherical conducting particles of small radius  $R \ll \bar{r}$ , where  $\bar{r}$  is the mean distance between electrons, ions and charged particles in the gas. The Boltzman distribution function  $f$  describing the distribution of electrons has the form:

$$\frac{\partial f}{\partial t} + \mathbf{v} \cdot \frac{\partial f}{\partial \mathbf{r}} + \frac{e\mathbf{E}}{m} \frac{\partial f}{\partial \mathbf{v}} = \sum_{\alpha} \left( \frac{\partial f}{\partial t} \right)_{\alpha} + \sum_{-\infty}^{Z_0} \left[ \left( \frac{\partial f}{\partial t} \right)_{(Z-1)e} + \left( \frac{\partial f}{\partial t} \right)_{Ze} + \left( \frac{\partial f}{\partial t} \right)_{Z\gamma} \right] + \left( \frac{\partial f}{\partial t} \right)_e \quad (1)$$

where  $\mathbf{v}$  is the velocity of the electron;  $m$  - mass of the electron;  $\mathbf{r}$  - radius vector;  $E$  - electric field intensity;  $e$  - electron charge;  $Z_0 e$  - the maximum value of the effective positive charge of a particle  $(\partial f / \partial t)_{\alpha}$ ,  $(\partial f / \partial t)_e$ ,  $(\partial f / \partial t)_{(Z-1)e}$ ,  $(\partial f / \partial t)_{Ze}$ ,  $(\partial f / \partial t)_{Z\gamma}$

Card 1/2

UDC: 537.311.1

L 38221-66

ACC NR: AP6009428

- change of the distribution function per unit time due to, respectively: elastic collisions with  $\alpha$ -type ions or atoms; electron-electron collisions; thermal emission of electrons from particles with effective charge  $(Z-1)e$ ; inelastic collisions of electrons with particles of effective charge  $Z_e$ ; elastic collisions of electrons with  $Z$  particles. The function  $f$  is normalized to the number of electrons per unit volume  $n_e$ . Through the evaluations of contributions of different parameters an expression is derived for conductivity in such a system. Equation (1) is reduced to the form

$$f = f^{(0)}(1 + \Psi),$$

and the solution of integral equation  $\psi$  is represented in the form

$$\Psi = -A \partial \ln T / \partial r - B_e \partial v_0 / \partial r + n C d,$$

where  $A$ ,  $B_e$  and  $C$  are velocity, local composition of the mixture and temperature functions. Orig. art. has: 18 formulas.

SUB CODE: 07,20/ SUBM DATE: 07Jun65/ ORIG REF: 004/ OTH REF: 000

Card 2/2

L 06302-67 EWP(k)/EWT(d)/EWP(h)/EWP(l)/EWP(v) LJP(c) GG/BB/GD  
 ACC NR: AT6015368 SOURCE CODE: UR/0060/65/000/000/0148/0152  
 AUTHOR: Samuylova, V. N.; Valyavko, V. V.; Samuylov, N. N. 53  
 ORG: none B+1  
 TITLE: High speed semiconductor decoder 160  
 SOURCE: AN BSSR. Institut tekhnicheskoy kibernetiki. Vychislitel'naya tekhnika (Com-  
 puter engineering). Minsk, Nauka i tekhnika, 1965, 148-152  
 TOPIC TAGS: digital decoder, digital computer, computer circuit, computer control sys-  
 tem, computer technology, transistorized circuit 14  
 ABSTRACT: A method for improving the speed of decoders in computer control units by  
 means of substituting switching transistors for decoupling resistors is proposed. The  
 speed of arithmetic and logic operations in a computer depends on the operational speed  
 of the decoders. The response of a diode matrix is determined by the time constants of  
 the circuits, primarily by decoupling resistors in combination with the various cir-  
 cuit capacitances. One way to improve the speed is to reduce the value of the decoup-  
 ling resistors; this however, is undesirable because of the increase in current and de-  
 crease in signal-to-noise ratio. Actually, it is only necessary to lower the decoup-  
 ling resistance during the transfer of a pulse through the particular terminal. This  
 can be achieved by replacing the decoupling resistors by transistors operating in

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L 06302--67

ACC NR: AT6015368

switching mode. The transistors are normally turned off, but at the instant when a word is to be decoded, they are turned on for a brief period, until the decoding is done. The switching pulse is applied between the base and emitter through an RC network. All transistors in a particular section of the matrix are turned on and off simultaneously. The application of this technique produced a response improvement by a factor of 70, while preserving the 12:1 logic level ratio. A modification of this circuit leads to a further simplification of the decoder. Here, the coupling RC networks in the bases of the switching transistors are replaced by the secondary windings of a single pulse transformer. An improvement of response by a factor of 500 was possible at a sacrifice in signal-to-noise ratio of 2:1. The new switching method makes 5 MHz decoder operation feasible as compared to the 200 KHz for diode matrices using decoupling resistors. Orig. art. has: 2 figures.

SUB CODE: 09/

SUBM DATE: 15Dec65

Card 2/2 *gd*

SAMUYOV, F.A.

Studium der Wechselwirkung zwischen Atmung und Absorption von Wasser bei Pflanzen  
mit Hilfe von schwerem Wasser (D2O)

Third Working Conference on Stable Isotopes 28 October to 2 November 1963, Leipzig.



SAMVELOV, R.G.

Petrography of the Eocene and Oligocene sediments of western Turkmenia. Izv. AN Turk. SSR. Ser. fiz.-tekhn. i geol. nauk no.3:102-106 '65. (MIRA 18:12)

1. Institut geologii i razrabotki goryuchikh iskopayemykh Gosudarstvennogo komiteta Soveta Ministrov SSSR pri Gosplane SSSR. Submitted April 29, 1964.

SAMVELOV, R.G.

Mineralogical-petrographic characteristics of the Paleocene within the natural boundaries of Kyzyl Kup. Izv. AN Turk. SSR. Ser. fiz.-tekh., khim. i geol. nauk no.1:123-124 '65. (MIRA 18:7)

1. Institut geologii i razrabotki goryuchikh iskopayemykh Gosudarstvennogo komiteta nefte dobyvayushchey promyshlennosti pri Gosplane SSSR.

SAMVELOVA, S. A.

Oct 53

USSR/Medicine - Influenza Vaccines

"An Attempt at a Mass Prophylactic Immunization Against Influenza," S. A. Samvelova,

Moscow City San-Epidemiol Sta

Zhur Mikro Epid i Immun, No 10, pp 12-17

Intranasal immunization carried out with four different influenza vaccines in Moscow during Jan-Apr 53 lowered the total incidence of influenza and catarrhs by 22.7% among those who, prior to that, had been immunized twice and by 32.3% among those who had been immunized once. In a number of industrial enterprises morbidity was lowered by the factors 1.5, 2, and higher as a result of single applications of intranasal immunization. It is estimated that mass immunization of the population of a large city can be carried out within two weeks.

266T14

**SAMVELOVA, S.A.**

Preventive mass vaccination against influenza. Zhur.mikrobiol.epid.1  
immun. no.10:12-17.0 '53. (MLRA 6:12)

1. Iz Moskovskoy gorodskoy sanitarno-epidemiologicheskoy stantsii  
(glavnyy vrach M.S.Sokolovskiy).

(Influenza)

SAMVELOVA, S.A.

Effectiveness of mass vaccination against influenza. Zhur. mikro-  
biol. epid. i immun. no.9:9-13 S '54. (MIRA 7:12)

1. Iz sanitarno-epidemiologicheskoy stantsii Moskv, (glavnyy  
vrach M.S.Sokolovskiy).

(INFLUENZA, prevention and control,  
Russia, mass vacc., eff.)

(VACCINES AND VACCINATION,  
influenza, mass vacc. in Russia, eff.)

ZAIMANZON, Ye.S.; SAMVLOVA, S.A.

Incidence of psittacosis among people. Zhur.mikrobiol.epid. i immun.  
27 no.7:52-55 Jy '56. (MLRA 9:9)

1. Iz gorodskoy sanitarno-epidemiologicheskoy stantsii Moskvyy.  
(ORNITHOSIS, prev. & control  
among parrot attendants in zoo)  
(OCCUPATIONAL DISEASES  
ornithosis, prev. among parrot attendants in zoo)

*SAMVELOVA, S.A.*  
ZALMANZON, Ye.S.; RAPPOPORT, R.S.; SAMVELOVA, S.A.

Etiology of influenzal infections among groups of children in Moscow  
in December 1954 and January 1955. Zhur.mikrobiol.epid. i immun.,  
supplement for 1956:25-26 '57 (MIRA 11:3)

1. Iz Moskovskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.  
(MOSCOW--INFLUENZA)

DUDOROV, V.V.; SAMVELYAN, A.L.; LUKOVNIKOV, A.F.; LEVIN, P.I.

Decomposition of hydroperoxide groups in oxidized atactic polypropylene. Izv.AN Arm. SSR. Khim.nauki 15 no.4:311-320 '62. (MIRA 15:11)

1. Institut khimicheskoy fiziki AN SSSR.  
(Propene)                      (Hydroperoxide)                      (Oxidation)



CHALTYKYAN, O.A.; BEYLERYAN, N.M.; SAMVELYAN, A.L.

Temperature dependence of the rate of peroxy sulfate - triethanolamine reaction. Dokl. AN Arm. SSR 39 no.1:35-40 '64. (MIRA 17:8)

1. Yerevanskiy gosudarstvennyy universitet. Predstavleno akademikom AN Armyanskoy SSR M.A.Ter-Karapetyan.

SAMVELYAN, A. M.

"Investigation of a Method for Obtaining Wines of the Sherry Type in a Continuous Stream." Cand Tech Sci, Georgian Agricultural Inst, 17 Nov 54. (ZV, 5 Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

SAMVELYAN, A.M.

Diffusion of the metabolism products of sherry yeast in wine.

Biokhim. vin. no.5:143-148 '57.

(MLRA 10:6)

1. Institut vinodeliya i vinogradarstva AN Armyanskoy SSR,  
(Sherry) (Acetaldehyde) (Diffusion)

COUNTRY : USSR  
 CATEGORY : Cultivated Plants. Fruits. Berries. M  
 ABS. JOUR. : RZhBiol., No. 23 1958, No. 104836  
 AUTHOR : Arutyunyan, A. S., Dzhanpoladyan, L. M., Samvelyan, A. M. \*)  
 INST. : Institute of Viticulture, Wine Making and Orchard \* \*)  
 TITLE : Grape Vine Nutrition and the Quality of wine.  
 ORIG. PUB. : Vestn. s.-kh. nauki, 1957, No. 10, 87-98  
 ABSTRACT : At the experimental bices of the Institute of Viticulture, Wine Making and Orchard Cultivation in Yerevan' and Yerevan', and also under production conditions, experiments were carried out in 1954-1955 in the study of the effect of different fertilizers on the quality of wine made from varieties Muscat, Voskent, Saperavi and Kakhet. A definite connection was found between the amounts of aromatic compounds and the P content in grapevine berries.  
 \*) Khachatryan, A. L.  
 \* \*) Cultivation

CARD: 1/3

SIMONYAN, Ye.G.; SAMVELYAN, G.Ye.

Cytoembryological study of grape. Izv. AN Arm. SSR. Biol. nauki 18  
no.9:12-22 S '65. (MIRA 18:12)

1. Nauchno-issledovatel'skaya laboratoriya tsitologii Yerevan-  
skogo gosudarstvennogo universiteta. Submitted February 12, 1965.

SAMVELYAN, R.M.

Residual effect of DDT and benzene hexachloride on mulberry leaves  
[in Armenian with summary in Russian]. Izv.AN Arm.SSR.Biol.i sel'khoz.  
nauki. 9 no.7:81-87 J1 '56. (MLRA 9:9)  
(Plants--Effect of insecticides on) (Mulberry)

SAMUEL VAN, S.M.

... for the region of a thermocouple ...

... ..

32900

S/194/61/000/011/001/070  
D256/D302

9.4370

AUTHORS:

Karamysheva, A.F and Samvelyan, S.M.

TITLE:

Investigation of germanium-based Hall elements

PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika,  
no. 11, 1961, 5, abstract 11 A31 (Vestn. elektroprom-  
sti, 1961, no. 4, 61-63)

TEXT:

The sensitivity of Hall elements was found to increase with increasing resistivity; the temperature coefficients of the high-resistive elements were, however, so large that they were no longer suitable for use in measurements. The value of the coefficient decreased with decreasing resistivity of germanium. The best linearity of the Hall emf against the magnetic field strength was observed with a matching coefficient  $\lambda = 15$  to 20. The deviation from linearity at the optimum value of the matching coefficient varies between 1 and 3% for most elements. The interelectrode resistance increased with increasing resistivity of germanium from a value

Card 1/2



Investigation of germanium-based...

32900  
S/194/61/000/011/001/070  
D256/D302

of 15 to 18 ohm for elements with  $\rho = 0.3$  ohm. cm to 2300 ohm for elements with  $\rho = 40$  ohm. cm. Results of the investigations on indium arsenide based elements are presented. The smallest temperature dependence show indium arsenide elements with a Hall constant of  $50 \text{ cm}^3/\text{coul}$ . Low resistivity electron-conducting germanium is recommended for elements used in measurements by the compensation-method for temperatures ranging from  $+15$  to  $+130^\circ\text{C}$ . The indium arsenide elements can be used up to  $100^\circ\text{C}$ . [Abstracter's note: Complete translation]

Card 2/2

SAMVELYAN, V. M.

"The Complex Esters of Para-Alkoxy-Benzoin Acids as Local Anesthetics." Cand Biol Sci, Laboratory of Pharmaceutical Chemistry, Acad Sci Armenian SSR, Yerevan, 1954. (KL, No 12, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

*SAMVELYAN, V.M.*  
SAMVELYAN, V.M.

Interrelation between the chemical structure and local anesthetic action in some derivatives of para-alkoxy-benzoic acids. Izv. AN Arm. SSR. Biol i sel'khoz. nauki 11 no.1:59-65 Ja '58. (MIRA 11:2)

1. Institut tonkoy organicheskoy khimii AN ArmSSR.  
(BENZOIC ACID) (LOCAL ANESTHESIA)

SAMVELYAN, V.M.

Local anesthetic properties of  $\alpha,\beta$ -dimethyl,  $\gamma$ '-diethylaminopropyl ester of para-ethoxybenzoic acid. Izv. AN Arm. SSR. Biol. i sel'khoz. nauki 11 no.11:87-94 N '58. (MIRA 11;12)

1. Institut tonkoy organicheskoy khimii AN ArmSSR.  
(OKYCAINE) (LOCAL ANESTHESIA)

AKOPYAN, N.Ye., SAMVELYAN, V.M.

Relationship between the local anesthetic, cholinolytic and anticholinesterase activities of complex esters of benzoic acid.  
[with summary in English]. Farm. i toks. 21 no.5:38-43 S-O '58  
(MIRA 11:11)

1. Sektor farmakologii Instituta organicheskoy khimii AN ArmSSR  
(dir. - akademik ArmSSR A.L. Mndzhoyan).

(BENZOATES,

complex esters, local-anesth., cholinolytic &  
anticholinesterase activities (Rus))

(ANESTHETICS, LOCAL,

benzoic acid complex esters (Rus))

(PARASYMPATHOLYTICS,

same (Rus))

(CHOLINESTERASE, anatag.

same (Rus))

SAMVELYAN, V.M.

Pharmacological properties of  $\alpha,\beta$ -dimethyl,  $\chi$ -diethylaminopropyl  
ester of parathoxybenzoic acid, Izv. AN Arm. SSR. Biol. nauki 12  
no.6:49-54 Je '59. (MIRA 12:10)

1. Institut tonkoy organicheskoy khimii AN ArmSSR.  
(BENZOIC ACID--PHYSIOLOGICAL EFFECT)

SAMVELYAN, V.M.; AKOPYAN, N.Ye.

Relation between the local anesthetizing and anticholinergic action  
of piperidinealkanol esters of p-alkoxybenzoic acids. Izv.AN Arm.  
SSR.23-31 J1 '62. (MIRA 15:11)

1. Institut tonkoy organicheskoy khimii AN Armyanskoy SSR.  
(LOCAL ANESTHESIA) (PARSYMPATHOLYTICS) (PIPERIDINE)

SAMVELYAN, V.M.

Pharmacology of "etpenal". Izv. AN Arm. SSR. Biol. nauki 16  
no. 2:41-44 F '63. (MIRA 17:7)

1. Institut tonkoy organicheskoy khimii AN Armyanskoy SSR.



ENDZHOYAN, A.L.; SAMVELYAN, V.M.

Relation between the chemical structure and local anesthetic  
action among some derivatives of p-alkoxy and ethoxy benzoic acids.  
Izv. AN Arm. SSR. Biol. nauki 16 no.5:3-6 My '63.

(MIRA 17:6)

1. Institut tonkey organicheskoy khimii AN Armyanskoy SSR.

SAMVELYAN, V.M.

Changes in the activity of local anesthesia under the influence  
of the active reaction of the medium. Izv. AN Arm. SSR. Biol.  
nauki 16 no.9:17-21 1963 (MIRA 1787)

1. Institut tonkoy organicheskoy khimii AN Armyanskoy SSR.

SAMVELYAN, V.M.; GERASIMYAN, D.A.

Prevention of experimental hyperkinesias by cholinolytic compounds from the group of diethylaminopropyl esters of diphenylalkoxyacetic acid. Izv. AN Arm. SSR. Biol. nauki 16 no.12:11-18 D '63. (MIRA 17:2)

1. Institut tonkoy organicheskoy khimii AN Armyanskoy SSR.

SAMVELYAN, V.M.

Pharmacological characteristics of diethylaminopropyl ether of  
diphenylisopropoxyacetic acid. Izv. AN Arm. SSR. Biol. nauki  
18 no.3:15-20 Mr '65. (MIRA 18:5)

1. Institut tonkey organicheskoy khimii AN ArmSSR.

SAMVELYAN, V.M.; OGANESYAN, L.S.

Electrocardiographic analysis of antiarrhythmic properties of  
diethylaminopropyl ester of the diphenylisopropoxyacetic acid.  
Izv. AN Arm. SSR. Biol. nauki 17 no.6:35-40 Je '64. (MIRA 17:12)

1. Institut tonkoy organicheskoy khimii AN ArmSSR.

ACC NR: AP6029329

(A)

SOURCE CODE: UR/0426/66/019/006/0441/0446

AUTHOR: Yndzhoyan, O. L.; Morozova, N. M.; Samvelyan, V. M.

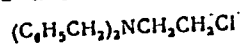
ORG: Institute of Fine Organic Chemistry, AN ArmSSR (Institut tonkoy organicheskoy khimii AN ArmSSR)

TITLE: Studies in the field of amino derivatives. Part 14: Some N-( $\beta$ -chloroethyl)-N-benzyl-N-p-alkoxybenzylamines

SOURCE: Armyanskiy khimicheskii zhurnal, v. 19, no. 6, 1966, 441-446

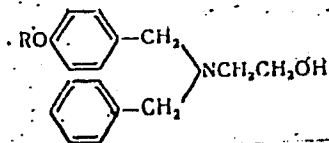
TOPIC TAGS: amine salt, secondary amine, organic synthetic process

ABSTRACT: Alkoxy derivatives of dibenamine



HCl

were synthesized. Their general structure was



Card 1/3

UDC: 541.69+547.233

ACC NR: AP6029329

The physical properties of the alkoxybenzylamines obtained are shown in Table 1, and the properties of their hydrochlorides in Table 2. All the hydrochlorides manifested a more or less pronounced adrenolytic activity. They also had a pronounced ganglion-blocking and "H" cholinolytic effect. Orig. art. has: 3 tables.

Table 1

| R                                  | Yield,<br>% | Boiling point<br>°C/mm | Molecular<br>formula                            | $d_4^{20}$ | $n_D^{20}$ | MR <sub>D</sub> |       |
|------------------------------------|-------------|------------------------|-------------------------------------------------|------------|------------|-----------------|-------|
|                                    |             |                        |                                                 |            |            | cal-<br>culated | found |
| CH <sub>3</sub>                    | 57,7        | 205-7/3                | C <sub>11</sub> H <sub>21</sub> NO <sub>2</sub> | 1,0942     | 1,5630     | 80,61           | 80,54 |
| C <sub>2</sub> H <sub>5</sub>      | 62,0        | 178-80/1               | C <sub>13</sub> H <sub>23</sub> NO <sub>2</sub> | 1,0758     | 1,5550     | 85,23           | 85,13 |
| C <sub>3</sub> H <sub>7</sub>      | 67,5        | 202-3/1                | C <sub>15</sub> H <sub>25</sub> NO <sub>2</sub> | 1,0648     | 1,5520     | 89,85           | 89,83 |
| iso-C <sub>3</sub> H <sub>7</sub>  | 33,3        | 192-5/1                | C <sub>15</sub> H <sub>25</sub> NO <sub>2</sub> | 1,0667     | 1,5500     | 89,88           | 89,81 |
| C <sub>4</sub> H <sub>9</sub>      | 53,3        | 219-21/1               | C <sub>17</sub> H <sub>27</sub> NO <sub>2</sub> | 1,0534     | 1,5456     | 94,47           | 94,13 |
| iso-C <sub>4</sub> H <sub>9</sub>  | 48,6        | 196-8/0,5              | C <sub>17</sub> H <sub>27</sub> NO <sub>2</sub> | 1,0510     | 1,5456     | 94,47           | 94,35 |
| C <sub>5</sub> H <sub>11</sub>     | 63,0        | 238-9/2                | C <sub>19</sub> H <sub>29</sub> NO <sub>2</sub> | 1,0398     | 1,5415     | 99,06           | 99,08 |
| iso-C <sub>5</sub> H <sub>11</sub> | 71,3        | 225-30/2               | C <sub>19</sub> H <sub>29</sub> NO <sub>2</sub> | 1,0386     | 1,5400     | 99,06           | 99,06 |

Card 2/3

ACC NR: AP6029329

Table 2

| R                                  | Yield,<br>% | Boiling point<br>°C/mm | Molecular<br>formula                 | Melting<br>point,<br>°C |
|------------------------------------|-------------|------------------------|--------------------------------------|-------------------------|
| CH <sub>3</sub>                    | 96,1        | 190—192/4              | C <sub>17</sub> H <sub>20</sub> CINO | 183                     |
| C <sub>2</sub> H <sub>5</sub>      | 92,3        | 186—188/1              | C <sub>18</sub> H <sub>22</sub> CINO | 124—126                 |
| C <sub>3</sub> H <sub>7</sub>      | 81,8        | 186—187/2              | C <sub>19</sub> H <sub>24</sub> CINO | 108—114                 |
| iso-C <sub>3</sub> H <sub>7</sub>  | 94,5        | 170—175/2              | C <sub>19</sub> H <sub>24</sub> CINO | 130—133                 |
| C <sub>4</sub> H <sub>9</sub>      | 57,4        | 207—208/3              | C <sub>20</sub> H <sub>26</sub> CINO | 108—110                 |
| iso-C <sub>4</sub> H <sub>9</sub>  | 74,6        | 203—205/3              | C <sub>20</sub> H <sub>26</sub> CINO | 137—139                 |
| C <sub>5</sub> H <sub>11</sub>     | 87,3        | 238—239/3              | C <sub>21</sub> H <sub>28</sub> CINO | 114—115                 |
| iso-C <sub>5</sub> H <sub>11</sub> | 71,3        | 210—213/3              | C <sub>21</sub> H <sub>28</sub> CINO | 118—119                 |

SUB CODE: 07/ SUBM DATE: 01Mar65/ ORIG REF: 001/ OTH REF: 008

Card 3/3



SAMVILOV, S.

S. Samvilov and M. Diatkina, Concerning the configuration of polyphenyls and triphenylmethyl. Pp. 1294-1301.

By the method of molecular orbitals are calculated the resonance energy of diphenyl, triphenyl and triphenylmethyl and various angles of rotation of the rings relative to the planar configuration. A relation has been found between the interaction energy of the ortho-atoms of hydrogen in the above molecules and the angle of rotation. In the most stable configurations of molecules, the angle between phenyl rings must be about  $30^{\circ}$ .

The Karpov Physical Chemical Inst.  
Moscow  
April 9, 1948

SO: Journal of Physical Chemistry (USSR) 22, No. 11, 1948

MOISEYKOV, S.F.; SAM'YANOV, V.F.; SOLODKOV, V.K.; TOLSTENEV, V.S.

Refining and dewaxing deasphaltates from the residue of petroleum  
of western Turkmenia. Nefteper. i neftekhim. no.7:17-23 '65.  
(MIRA 18:12)

1. Turkmenskiy filial Vsesoyuznogo neftegazovogo nauchno-  
issledovatel'skogo instituta.

SAMYGIN, A. V., kandidat meditsinskikh nauk (Moskva)

Roentgenoscopy in daylight with the aid of the "stand roentgenoscope."  
Vest. rent. i rad. no.6:67-72 N-D '54. (MIRA 8:1)

(FLUOROSCOPY,  
in daylight)

SAMYGIN, G. A.

Mbr., Institute of Plant Physiology im. K. A. Timiryazev, Acad. Sci. - 1947

"The Dependence of the Photoperiodicity of Reaction on the Number of Leaves on a Plant,"  
Dok. AN, 58, No. 1, 1947

SANYGIN, G.A.

New data on the photoperiodic reaction of *Ullucus tuberosus*. Trudy  
Inst. fiziol.rast. 6 no.1:45-52 '48. (MLRA 9:9)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva AN SSSR.  
(Plants, Effect of light on)

SAMYGIN, G. A.

"Role of Leaves in the Photoperiodic Reaction of a Long Day Plant," Dokl. AN  
SSSR 59, No.1, 1948

Timiryazev Plant Physiology Inst.

PA 07104

SAMYGIN, G. A.

USSR/Medicine - Plants  
Medicine - Light, Effects

May 1948

"Effect of the Ratio of the Number of Hours of  
Strong and Weak Light on the Development of  
Rudbeckia," G.A. Samygin, Inst of Plant Physiol  
imeni K.A. Timiryazev, Acad Sci USSR, 5 pp

"Dok Ak Nauk SSSR, Nov Ser" Vol IX, No 6

Experiments conducted during the summer of 1947 to  
determine the subject effect. Strong light effects  
the development of long-day plants through the pro-  
cess of photosynthesis. Submitted by Academician  
N.A. Maksimov 22 Mar 1948.

67T64

SAMYGIN, G. A.

PA76T79

USSR/Medicine - Plants  
Medicine - Illumination

Jan 1948

"The Effect of Strong and Weak Light, Given Before or After a Dark Period, on the Growth of 'Perilla' and 'Eudbeckia'," G. A. Samygin, Inst of Plant Physiol imeni K. A. Timiryazev, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 7

Describes and analyzes research on significance of intensity of light administered to plants prior to period of darkness. Submitted Mar 1948.

76X79



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USSR/Medicine - Plants, Physiology  
Medicine - Light, Effects

Jun 1948

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B. S. Levine.